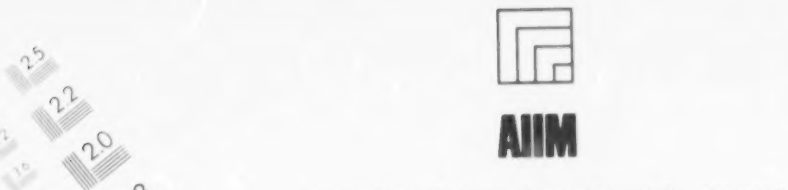

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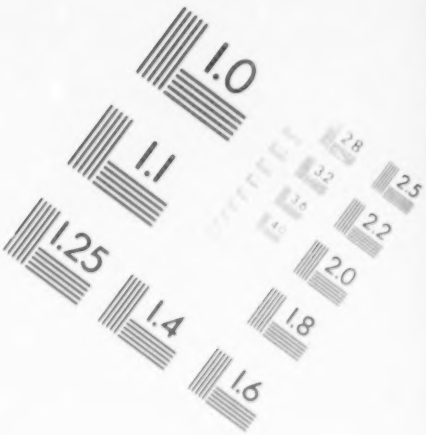

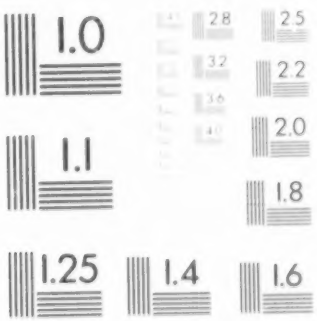

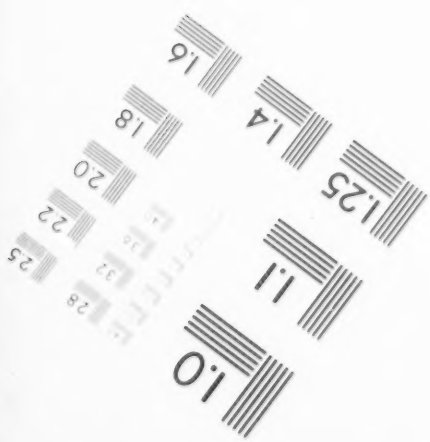

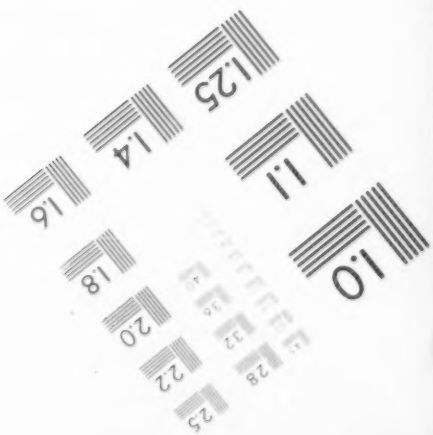

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ABSTRACT

This action research study focused on electronic exchanges initiated by students who were asked to reflect and enter narratives that expressed their thoughts, feelings, and questions. The study was conducted through a systematic recursive cycle of identifying the idea or problem area, studying it by gathering data, and reflecting on the data in order to make teaching and learning decisions grounded in the evidence. The purpose of the study was to determine how submissions with feedback in electronic journals kept by students affected the teaching and learning process for six undergraduate students in a teaching methods course. Through the electronic exchanges, ideas were shared, negotiated, and continued beyond the classroom. The exchanges helped the student and the professor to negotiate the curriculum in ways that traditional lecture and college teaching does not. An appendix contains a chart of the professor/student interactions. (Contains 12 references.) (SLD)

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A Professor and His Students Share their Thoughts, Questions and Feelings

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ABSTRACT

In this action research study, I focused on events that consisted of electronic exchanges initiated by the students who were asked to reflect and enter narratives that expressed their thoughts, feelings, and questions. Action research is defined for this study as the acting on an event, object, problem, or an idea, by an individual or group directly involved in gathering and studying the information for themselves, and using the results for the purpose of addressing specific problems within a classroom, school, program, organization, or community (Alvarez, 1995). The *action* is the acting on an event, object, problem, or an idea for the purpose of monitoring and evaluating its course and outcomes. *Research* is a systematic deliberate critical inquiry of an event in order to enlighten one's thinking, learning, and practice. These entries took the form of a mental task similar to a diary entry. This action research study was accomplished through a systematic recursive cycle of (1) identifying an idea or problem area, (2) studying it by gathering data, and (3) reflecting on the data in order to make teaching and learning decisions grounded in evidence. The purpose of this study was to determine how submissions with feedback in electronic journals affected the teaching and learning process for my undergraduate students and, during the process, reconciling and responding to any misconceptions, questions, or thoughts that arose during the semester class meetings. Six undergraduate students, four women and two men, were randomly selected and their postings and my responses to them were evaluated. Ideas were shared, negotiated, and continued beyond the walls of the classroom and helped both the student and the professor to negotiate the curriculum in ways that traditional lecture and college teaching does not entertain.

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A Professor and His Students
Share their Thoughts, Questions and Feelings

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How professors and students share their thoughts, questions, and feelings are important issues that influences instruction and learning. Being able to communicate and teach facts and concepts under meaningful circumstances are important aspects in the teaching and learning process. Unfortunately, most information is dispensed via lecture in a college setting and assessed with a test. Students have little time to reflect and to either express their thoughts and feelings about what is taking place or to communicate to the professor what they are learning or having difficulty after each class session. Often students misconceive what they read and hear in a lecture-type setting and these misconceptions are carried through into an examination and are seldom resolved.

Nowhere is this the case than in college classrooms where the professor lectures and students dutifully take notes for later retrieval on an examination. Facts become valued over ideas due to expediency and an attitude of getting through the required course at minimal expended thought. Understanding is sacrificed for knowing in this type of classroom setting with little professor/student exchanges taking place outside the walls. In many instances the professor relies upon end-of-the-semester student evaluations to determine student perceptions of course content and delivery of information; however, in many cases these comments cause minimal, if any, changes in course preparation, adjustment, or course restructuring.

To better assess how students perceive what they are studying and learning it is important for them to communicate with their professors and to understand how they conceptually organize

information in order to clarify any misconceptions or faulty reasoning that may take place after each class session. The purpose of such a function is to aid students in creating thinking/learning contexts that enable them to self-monitor their understanding of the learning process and initiate strategies to deal with new information. Thinking-learning contexts are those mental models (conceptual frameworks) that students invoke when confronted with problem-oriented tasks that go beyond memorizing and compartmentalizing information (Alvarez, 1993). From my perspective, it is important that a professor be aware of his students' level of perceptions and understandings with the facts and concepts that are being taught to better inform my practice.

THEORETICAL FRAMEWORK

Gowin's (1981) theory of educating, Ausubel's (1963, 1968) cognitive theory of meaningful reception learning, an emphasis on teachers and students becoming "communities of thinkers" (Alvarez, 1996), and an action research constructivist epistemology provided the philosophical and theoretical background upon which this investigation was designed and through which the results were interpreted. Gowin's theory focuses on the educative event and its related concepts and facts. This theory is helpful in classifying the relevant aspects of the educative event. In an educative event, teachers and learners share meanings and feelings so as to bring about a change in the human experience. This theory stresses the centrality of the learner's experience in educating. Within this theoretical framework guiding my inquiry was Gragg's (1940) warning that "wisdom can't be told."

The notion presented in this study by this theoretical framework enables both students and practitioners to become better informed and knowledgeable about practices that enhances conceptual learning and meaningful understanding.

BACKGROUND

Thinking and learning are enabling processes but they are not synonymous. The former is a process that moves from some beginning event to some conclusion or solution. The latter is a process that focuses on increasing or perfecting the execution of the solutions in the form of a product outcome. Thinking takes place during learning but is an intermediate phase rather than a final product (Russell, 1956). It is possible to learn new information through rote memorization or association without understanding what this new knowledge is or how it can be assimilated or applied to other meaningful situations.

At the beginning of each semester I ask students to answer questions that relate to one of three statements. Statements one and two contain some nonsense words that make it possible for students to answer correctly literal questions about the two statements, but not interpretive ones. However the third statement is legitimately worded. When I gave college students this third statement that read, "The Dutch built polders to protect their land" and asked, "What are polders?" Some responded: "land protectors." When asked specifically what they meant by "land protectors" or how the term was defined, an overwhelming majority in the class had limited knowledge. Again, a teacher could take their response as having somewhat of an understanding of the term "polders," but the students did not have a rich context for its meaning. These students had applied a strategy of taking the word "polders" and associating it with a plausible definition contained within the sentence. Many students use this word association and find it to be successful in getting the "right" response to a question, even though they have limited understanding of its meaning, use, or application. This type of "learning" takes place in many classrooms giving the false impression that students are achieving meaningful understanding of facts and ideas. This emphasis on product outcomes that is prevalent in many classrooms, while expedient, sacrifices thinking process outcomes new to them that involve more thinking and consume more time.

If I am to expect critical thinking to take place, I need to provide students with problem-solving lessons in meaningful learning contexts in order for them to understand and use new information. These learning contexts become meaningful when new information is linked to existing concepts, and when learned, become incorporated (integrated and related to other knowledge sources in memory) rather than compartmentalized (isolated due to rote memorization). I also need to understand how new knowledge is understood by my students in class to better understand the workings of different knowledge paradigms. Since all knowledge is constructed, it is important that I ascertain how an individual constructs his or her mental models (personal constructs) with this new knowledge. In so doing, it will aid me to better understand how to incorporate this knowledge into related subject disciplines rather than allowing it to be kept in isolation and compartmentalized within a given discipline.

The purpose of this study was to determine how submissions with feedback in electronic journals affected the teaching and learning process for my undergraduate students and, during the process, reconciling and responding to any misconceptions, questions, or thoughts that arose during the semester class meetings.

METHOD

This study was conducted over a fall semester course at Tennessee State University using Exploring Minds: an interactive electronic network developed at the Center of Excellence in Information Systems, TSU (Alvarez, 1995). Undergraduate students, predominantly African-Americans, were enrolled in a teacher education methods course. I had eighteen preservice teachers in this reading methods class comprised of students in majors at the College of Arts and Sciences, College of Business, and health and physical education in the College of Education. Six African-American students, four women and two men, were randomly selected and their postings and my responses to them were evaluated. The four

women (SM, DC, TR, and FS) and two men (FW and TT) comprised the cadre that was randomly selected for review. FS, and FW majored in English, DC majored in biology, TR majored in business information systems, TT majored in history, and SM majored in art.

For this investigation, I used an action research paradigm using a case method of analysis. Action research is defined as the acting on an event, object, problem, or an idea, by an individual or group directly involved in gathering and studying the information for themselves, and using the results for the purpose of addressing specific problems within a classroom, school, program, organization, or community (Alvarez, 1995). The *action* is the acting on an event, object, problem, or an idea for the purpose of monitoring and evaluating its course and outcomes. *Research* is a systematic deliberate critical inquiry of an event in order to enlighten one's thinking, learning, and practice. In this study, I focused on events that consisted of electronic exchanges initiated by the students who were asked to reflect and enter narratives that expressed their thoughts, feelings, and questions. These entries took the form of a mental task similar to a diary entry. This action research study was accomplished through a systematic recursive cycle of (1) identifying an idea or problem area, (2) studying it by gathering data, and (3) reflecting on the data in order to make teaching and learning decisions grounded in evidence.

I also used a Vee Diagram to plan, carry out, and finalize my action research study (see Appendix). A Vee Diagram is a heuristic developed by D. Bob Gowin (1981) to enable one to learn about the structure of knowledge. The Vee enables a researcher to understand the structure of knowledge (e.g., relational networks, hierarchies, combinations) and to understand the process of knowledge construction. Gowin's fundamental assumption is that knowledge is not absolute, but rather it is dependent upon the concepts, theories, and methodologies by which we view the world. To learn meaningfully, individuals relate new knowledge to relevant concepts and propositions they already know.

The Vee diagram aids researchers in this linking process by acting as a metacognitive tool that requires the researcher to make explicit connections between previously learned and newly acquired information. An interactive vee diagram (Alvarez, 1998) was designed by me and is used as part of the learning research process (Exploring Minds) by my students as well as other students, teachers, and researchers at high schools and universities affiliated with the Explorers of the Universe Scientific/Literacy Project.

Exploring Minds is an interactive electronic network that is password protected and contains provisions for teachers, researchers, and students to communicate about their class work and/or research agendas. I designed this network as a venue for professors, teachers, and students (middle, secondary, and postsecondary) to reflect, negotiate, and evaluate the teaching-learning process almost exclusively over the Internet (Alvarez, 1998, 1997). The network contains several interactive tools for posting notebook entries, constructing concept maps and vee diagrams, and storing information (print and nonprint) in a portfolio. Exploring Minds is a self-contained software system that encapsulates transactions between students and learning stakeholders over the Internet interactively. My focus for this investigation was on the journal component that students used to enter their thoughts, feelings, and questions following each class session that met twice a week for fifteen weeks. Students also posted reactions to their assigned class readings.

Students entered the restricted portion of the network through their usernames and passwords. Their name appeared and they selected their notebook from the icons displayed on the left side of the page. Upon entering the notebook section, the student posted their written information and sent it to me. When comments were made I sent it back to them. The student checked the portfolio section of the Exploring Minds network to access and read my comments. A record (date and time) of each transaction was noted in the students' notebook section and also in mine.

Procedures

Each class met twice each week for one hour and fifteen minutes over a fifteen-week semester. Students were given a password and username by me and were shown how to access and enter information on the Exploring Minds Network. A password protected section provided entry into a Student Console and a Teacher Console. Each student's journal was a private entry read only by me. After each class period, or at a time before the next class meeting, students were required to access their individual electronic account and enter their thoughts, feelings, and/or questions concerning the events that transpired during the class activities for that session via the Internet. Students either used computers in the university computer laboratories, library, dormitory, or home. I reviewed the entries and responded with feedback if the posting so warranted. The feedback was given either in response to a question; provided encouragement to the student; directed the student to a relevant source that would enhance his understanding regarding his query; contained information that perhaps the professor was not aware that needed either clarification or additional information; and/or invited the student to share his comments with the class.

Since students were asked to post entries using a self-reflective, diary-type format, I only responded when the posting either asked a direct question, or was worded so as to warrant a response. An example of a warranted response being, "I hope I can understand how this method can be used in my math class." This would signal me to respond with an encouraging statement such as, "Think about what we did in class yesterday and how you would apply this method to students in your future math class." If you are still unclear be sure to ask me in class at our next meeting." This type of statement is similar to when one thinks out loud. In this type of communication network the statement, when read by another (in this case the professor), can be "heard" and responded to accordingly.

These journal entries and responses served as records of the events that were happening during and after each class. These records enabled me to monitor class activities and assignments and to make notations for improving future classes. Students were asked to submit a midterm summary so that I would have a better understanding of the perceptions that students held about the course content, class demeanor, and the extent of its influence on their personal meaning with the facts and concepts being taught during the semester.

After the fall semester course was completed and the grades had been determined and finalized, I randomly selected six students from this class to again read their entries, and classified their responses according to one of three levels of reflection. Within one posting there might be no reflective statements or they could include one or more reflective levels.

ANALYSIS

Six students from my secondary reading methods class were randomly selected to examine their responses for each posting over the course of the semester. I read each entry and classified their musings according to the level of reflection written. This was an arbitrary assessment, however, a classroom environment is a dynamic place where data cannot be collected nor examined such as when one conducts laboratory experiments where every effort to control and manipulate the situation is afforded.

I was interested in the ways that my students reflected upon what was being taught both in their affective and cognitive responses as well as how well they understood the facts and concepts of a specific lesson. Three levels of reflection were classified:

1) How important the facts and ideas were perceived by my students;

2) If they reported that the facts and ideas were part of their prior knowledge and/or experience; and,

3) If they applied the facts and ideas of a topic to another relevant situation. As part of the analysis I also read each posting to determine if any misconceptions related to the lesson or reading assignment were reported in these entries.

In reviewing the six students one, SM, entered her postings in a continuous dialogue with me as opposed to the others who primarily maintained a running record with them selves. Many of SM's postings were questions. Some of these questions were direct; others indirect. The following entry is an example of "thinking out loud" that warrants a response:

Classroom reaction-Tues I never knew of the cloze procedure or the previous formulas discussed in class either. I wonder why I don't see or hear of any teachers using these techniques.

Teacher Comments

Marino Alvarez said on 9/5/00 1:45:17 PM . . . An overwhelming majority of teachers have never experienced or been taught to use these and many of the other strategies that we will be doing this semester.

SM follows this entry with one from the following class session activity in which she was uncertain on the procedures for developing a Group Informal Reading Inventory:

Chapter 2 G.I.R.I. I understand overall what purpose the G.I.R.I. is used for in classrooms, but I just am not clear on how to devise one. After the 1st passage and scores are collected I then get 2 different passages on 2 grade levels above or below the first passage level. Are the questions the same or are they different for each passage.

Teacher Comments

Marino Alvarez said on 9/7/00 2:10:10 PM . . . I will revisit the GIRI when we study readability formulas. When we apply the formula to a given 100 word passage in a textbook or any reading material a grade is indicated as to passage difficulty. In using the formula in a given textbook you will find several different levels of passage difficulty. Select one that is on grade level that you are teaching (e.g., 8th grade). Devise 10 questions (3 literal, 3 vocabulary, and 4 interpretive questions. Then do the same with a passage two grade levels above and two below. Remember that you are using 70% as the criteria (7 or more correct and 6 or less)for each assigned passage. The questions cannot be the same for each passage because each of the three passages are different (one 100 word passage from one part of the text, another 100 word passage from another part of the text, and a third passage from another location in the text.

Another example entry from SM deals with her feeling of inadequacy when applying a timed reading test to her own reading rate:

Chapter 4 I gave myself a timed reading test to see how many words I could read (and comprehend) a minute and according to the formula I read only @200 wds per minute. I feel that this news is very shameful for a college student.

Teacher Comments

Marino Alvarez said on 9/19/00 12:13:07 PM . . . Not really. How much did your comprehend? That's what important. You can increase your speed more often with narrative rather than expository discourse.

SM applies information from our class activity to one of her other subject areas. I respond to her by elaborating upon the parameters of the formula. Also, notice how she indirectly elicits a response from me in her parenthesis:

Fry graph-- I am always trying to use my text in my subject area for the assignments and to my suprise they have pretty-much written for who they were intended for. Although, with this formula "Design Basics" was behind a grade level given the margin of error. (By the way I'm an Art major)

Teacher Comments

Marino Alvarez said on 9/22/00 2:55:08 PM . . . I like art - and also appreciate art. Remember that the Fry Readability Formula has a standard error of measurement of r'us or minus one year.

The following entry by SM conveys her apprehension with reading expository text as well as serving as an indicator of new learning with the SQ3R technique:

Chapter 10-- I have never seen SQ3R before reading this chapter and I think this could have been helping me out in my college courses. I have a very hard time focusing on what I am reading. It's like I can't tune anything else out.

Teacher Comments

Marino Alvarez said on 9/27/00 9:11:59 AM . . . I believe the strategies presented in chapter 10 will enable you to better comprehend what you read and, in the process, help you teach others with these methods.

In SM's midterm summary she reveals her uncertainty to cope in her forthcoming student teaching experience. This kind of entry requires a response by me to encourage her during this period.

Midterm summary-- So far I have really been able to apply some of the methods and formulas we have learned. I am having somewhat of a time remembering when and under what circumstances to use them. I must tell you, actually, this course makes me a little nervous about teaching in the spring. I feel I want to be able to have this down packed before I step in the classroom.

Teacher Comments

Marino Alvarez said on 10/20/00 9:15:09 AM . . . Don't worry you will. Your apprehensions will be set aside, because you are a concerned individual who is interested in helping your students to succeed.

Again SM's entry requires a response even though unsolicited:

classroom entry-- I really didn't want to say in class what I felt about the Frost poem handout because I feel now that it is from a negative standpoint. But I wrote: Teachers, not being able to explain something or how it is applied and functions, can confuse the interested and curious. They will either try to figure it out themselves with little or no sucess or become uniterested. This information will be used or manipulated incorrectly and stored improperly resulting in a domino effect of misconstrued data throughout learning.

Teacher Comments

Marino Alvarez said on 11/21/00 10:24:38 AM . . . This is not a negative comment. I agree that teachers need to explain, demonstrate, model, so that her students know and understand and not become frustrated.

Student comments require responses due to the nature of how they are posted. For example, SM is expressing her frustration in anticipating difficulty using working with the Interactive Vee Diagram on the Exploring Minds network:

Classroom entry--- I think I better understand the V-diagram by the examples in the workbook. I wish I had the disk to work with because I think I'm going to screw up the electronic one.

Teacher Comments

Marino Alvarez said on 12/31/00 1:54:07 PM . . . Sylvia: Go to the computer lab across from Room 211 in the Education Building. Ask for Jamie and he will get you on the computer that has the Vee Format.

DC, a biology major, is concerned about accurate measurements. As a science major she is trained in the scientific method and quantified measurement. She is distressed that a formula gives an "estimate" of reading difficulty rather than an absolute:

Thursday's continuation of readability was interesting. This excercise shows how many ways assessment can be done. What I didn't like is that the grade levels of the scored readabilty paragraphs was not accurate to what the student in that particular level would actually be reading. This is a type of measurement that I wouldn't use. It's just not accurate enough.

Teacher Comments

Marino Alvarez said on 9/27/00 9:09:40 AM . . . Readability formulas are "estimates" of reading difficulty not absolutes. You will find that very few absolutes exist when teaching human beings.

I was able to discern the impact of a notetaking procedure that also included a way to use it as a study aid and the teaching of SQ5R contributed to DC's applying it to her biology class in a forthcoming quiz. A series of entries relays her feelings, thoughts, and application of these study aids:

I liked the lesson that we went over today. I haven't tried the SQ5R formula yet, but I will. I've been having a little trouble in a class, and I'm going to do this method for a quiz next week. This type of strategy will be good for any student that is having trouble in a class. I wish I would have none about this method during my first years at TSU.

Teacher Comments

Marino Alvarez said on 9/27/00 9:10:56 AM . . . Many students tell me that they wished they had heard about and used strategies in their earlier school experiences. You will be that person who makes a difference with your students when you teach.

Today's lesson was very informative. I am excited about this new notetaking method. Well, it's new to me because i've never studied this way. I'm still not finished with the SQ5R technique. I'm using my Cell Biology book, and hopefully this method will help me for my next quiz and test. I will also try the notetaking technique, but this is an area that I have not had any trouble in. I could incorporate both of these methods in my teaching, and also assign homework in this format so my future students will prepared for the future.

Teacher Comments

Marino Alvarez said on 9/29/00 3:36:36 PM . . . I know you will do well in your quiz, and better at teaching these methods to your future students. Good luck - you won't need it because you are prepared!

DC comments on the functions and uses of hierarchical concept maps that were taught in class. She also conveys to me that she scored an "A" on her biology quiz using the SQ5R technique learned in class:

I enjoyed the introduction on the concept maps. It seemed a little confusing at first, but if a five year old can do it, then I know that i can. This is something that I have to get use to. I'm going to try this method for a chapter that I have to read for a class. The chapter is fairly short, so it shoud be easy. I tried the SQ5R method for a biology quiz, and I got an A. I'm going to continue with that method as well as trying this new method.

Teacher Comments

Marino Alvarez said on 10/9/00 10:05:01 AM . . . Congratulations on the biology quiz! I am interested to read about how concept maps influence your learning.

TR, a business information system's major, expresses how she rethought her ideas when constructing her concept maps using a software program that is used to send her map via the Internet using the Exploring Minds network:

RESPONSE TO CLASS MEETING DATED 10/12/00 This was the actual creating of our concept maps. My first attempt I deleted and started over after seeing some of the other class members. I then wanted to give it more features that I didn't know about. All and all the introduction to the Software Inspiration 5.0 was great. I plan to use it more often even for other things that the Concept Maps.

Teacher Comments

Marino Alvarez said on 10/20/00 9:08:05 AM . . . Redoing one's concept map helps to better clarify ideas. This is the most important part of the mapping process - revising it and looking at it from a different perspective.

TR then responds by comparing the maps presented by the other students in class. Her insight enables me to remember to point out to the class members that different majors are represented in this class and that the maps and instructional strategies that will be developed will depend upon the subject discipline.

Presentation of Concept Maps 10/17/00. It was fun. Everyone had some feature that the other class members may have not thought off which was great.

FW, an English major, demonstrates his learning and understanding of the reading assignment:

Chapter 1 Chapter 1 began to explain to me what this textbook was about. It addressed common practices such as assigning and telling that are so common, but are not really teaching. I as a future teacher, should make students the center of learning. I learned the importance of letting students speak out more in class, and work in groups to debate with each other. I also became more aware of the role of text in the classroom, and to be careful to use their contents to scaffold new knowledge to students' prior knowledge.

Teacher Comments

Marino Alvarez said on 9/15/00 2:45:37 PM . . . Scaffolding instruction is an important consideration when teaching - as you mention. We will be constructing strategies that take this concept into practice.

For most of TT's entries he reiterated what transpired in the class however some of his entries evoked either questions, thoughts, or provided an explanation of his opinion. One of his entries contained a reference to a poem he wrote to accompany the development of a thematic organizer.

Informal Reading Inventory In class we discussed and went over the strategies that teachers and educators alike can use to better determine the reading level of their students. The gorup informal reading inventory enabled students to be tested on four levels of reading. They were the independent, instructional, frustration, and listening potential levels. Each level tested how well the student could read the material presented to him/her either by way of the teachers handouts or through the text.Each level was significantly important but I found that the frustration level was most interesting because it was the level that the student could no longer profit from the instruction. Other students found other levels more important to them as teachers but I hold strong to my belief that the frustration level is one of the more important ones.

Teacher Comments

Marino Alvarez said on 10/12/00 11:52:34 AM . . . You make a good point. Knowing the frustration level helps you, as a teacher, to better match the materials to the student. Of course, as you are aware, the other two levels are important also and for the same reason.

My comments above changed my thinking with the anticipated answer that I had expected. When I wrote this Informal Reading Inventory scenario I expected students to answer the analysis by stating the "instructional" level. However TT made a convincing case for the teacher to also be aware of the "frustration" level of the student.

The following entry by TT demonstrates the need for a professor to be in touch with student thoughts after each class session to clarify any questions that may arise after class:

Class Profile This was one of the exercises that I had problems with in that I didn't really understand some of the things introduced. The whole class profile activity involved using test scores to determine what level of content reading should be used in the classroom. This process would enable a teacher to see the whole wide range of reading achievement levels in his/her classroom. Hopefully this would give teachers a clue as to who could and could not be grouped together during activities. Students whose performance on certain tests were extremely low could be sent to a reading

specialist for further evaluations. I understood the whole activity until we got to page eighteen and looked over the example of the class profile. I just didn't understand how to relate the cloze test with the CTBS scores, group IRI and individual IRI scores. Other than that, I understood everything else.

Teacher Comments

Marino Alvarez said on 10/17/00 9:01:31 AM . . . The cloze test provides the teacher with an indicator of a particular student's ability to read that specific passage selected by the teacher. One of three levels is determined: independent, instructional, and frustration. You know the percentages for each. The CTBS is representative of any standardized test that is given to students in a school district. These formal assessments are indicators for the teacher just as are the informal assessments. Any questions or uncertainties please let me know.

TT, a history major, writes a poem to accompany a thematic organizer, an adjunct aid, to clarify ill-defined concepts. His entry states his willingness to try using a thematic organizer for a reading passage once he begins teaching:

Thematic Organizer The thematic organizer was something that I also plan to use in my classroom one day. It involves the student being introduced to a passage through a group of paragraphs that get them ready for their reading. It's almost like the theme for the reading is introduced before you begin to read the story. Then the students are to read over some questions after they have read the preliminary reading. The questions are about the reading. The students are to answer the questions and use the reading as a reference. Each question contains a stanza where the answer might be found in the reading. I completed a thematic organizer on a poem that I made up for the assignment. The title was "A Dog Gone Misconception". I hope you enjoy it and put in next years activity packet.

Teacher Comments

Marino Alvarez said on 12/15/00 2:25:54 PM . . . I did enjoy reading your composed poem. Thanks for taking the time and effort to write it. I like it very much and am saving it for later use.

TT reveals his thoughts with using the Vee Diagram to plan an action research project. His comments provided me with more of an insight of problems that the Vee Diagram presents to a student when first encountered:

Vee Diagram This was a fairly difficult assignment for me. It involved a series of instructions where the student has a central focus question and a bunch of information that encompasses that question. The purpose of the assignment from what I gathered was to solve the focus question in the classroom and use the V Diagram as a way of plotting the information. Once you got the hang of what you were supposed to be doing it wasn't that bad. The hardest thing was finding a way to organize all the information in the diagram.

Teacher Comments

Marino Alvarez said on 12/15/00 2:26:47 PM . . . The vee does take time but it serves a very useful purpose for conceptualizing ideas and carrying them out.

FS's entries are more self-reflective and a dialogue with one's self. Although I ascertain much insight into her thoughts and feelings by her entries they do not require a response by me. However, I continue to respond to her comments despite not receiving an invitation or prompt to do so. It may be that I do so in order to let her know that I am listening and can offer encouragement when necessary. An example of this kind of encouraging response are my remarks to her entry that follows:

I learned a lot of information about SQ3R and SQ5R that I didn't understand. I was familiar with the process of SQ3R but never knew the name for it. The SQ5R is something that I practice now when I am preparing for a test. I think this technique can be very helpful for students who are having trouble studying.

Teacher Comments

Marino Alvarez said on 10/4/00 3:23:11 PM . . . Your using SQ5R will better enable you to teach and demonstrate the process to your future students. They will benefit from your experience with this technique.

In the above entry FS, an English major, reveals her coming to an understanding with the process of SQ5R and her use of this technique as a study aid in her other courses. She also states that she plans to use it when she begins her teaching. She indicates her prior knowledge with the SQ3R technique and applies this knowledge to an unfamiliar SQ5R technique. This application of the SQ5R technique is mentioned to her own study and to her future students.

Again in the following entry she mentions the use of QAR a strategy depicted in her textbook. FS indicates that she appreciated the examples the author used to explain the ideas and also that she has applied this technique to her own study. She also plans to use the technique with her future students:

Chapter 2 was an informative one with alot of information. One thing that I liked about the chapter were the various examples the authors used to convey a certain ideal. The chapter mainly deals with diverse learning.Scaffolding is mentioned mostly in the chapter and discussed three aspects of it. Many of the concepts will be used in my classroom QAR's. This technique was used in some of my classes and were helpful for me.

My comments foreshadow the use of the scaffolding procedure with other strategies that we will be studying in the upcoming weeks.

Teacher Comments

Marino Alvarez said on 9/27/00 9:15:21 AM . . . We will be discussing scaffolding when we study concept maps and reading/study guides, to name a few.

FS's feelings with the timed writing activity and her application into her lesson plans is evidenced in this entry:

11/16- I just loved the timed writing activity. I will use this in my own classroom. With this activity, I will be able to see how they write and think by using a broad statement. In fact, I incorporated this into some of my lesson plans. The thematic organizers are interesting too. However, I haven't read the information in the packet yet.

Teacher Comments

Marino Alvarez said on 11/21/00 10:27:18 AM . . . The timed writings are very good for both the student and teacher. I believe thematic organizers will also be useful and meaningful.

FS's confusion with the Vee Diagram is consistent with the other students in my class who find this heuristic difficult to understand. I need to clarify the procedure and show more examples so that the students will better understand the Vee Diagram:

11/28&30- The Vee Diagram is something that is confusing to me. I don't understand how to put the information into place. I have looked at the examples from the packet but I am still uncertain of what I am doing.However, once I get the hang of it I'm sure I will use this in my own classroom. I have never seen this before and find it very interesting to do. I think it is a good idea for teachers to also do the research along with their students. I did do a Vee Diagram but am not sure if it is correct but I tried my best.

The postings by these six students reflect the general comments of the entire class. Their comments served to better inform me of their level of reflection and understanding that took place during the class meetings and assigned readings of the semester. These entries also served notice that it is important for me to monitor the pulse of my students in order to better serve their interest and learning needs.

DISCUSSION

An interesting finding showed that I often responded to each students' journal posting. It was seldom when I didn't respond to a students' entry. I reflected on this observation by viewing other entries made by students in this class whom I didn't randomly select and found that in almost every instance I had responded to what they had posted. The primary reason being that the postings were worded in such a way that "asked" either directly or indirectly for a response. It may be that when you ask students to conduct journal entries as a

"dialogue with oneself" that the entries are written in such a way that evokes within the person a reflective stance that differs from when one is asked to record what transpired during the class session. This kind of posting results in a "report-like" response that is similar to a notetaking type of entry. This type of "report-like" entry does little to stimulate thought or evoke feelings since reflection of the class session is minimized and relegated to writing down the information and then repeating it again either from notes or memory into a journal entry.

My responses took the form of answering a direct or indirect question/statement, offering encouragement, or asking to share their concerns, revelations, and/or materials with the class. Many of the postings by the students contained embedded questions that were explicitly stated or took the form of comments that were written similar to "thinking out loud." One can question the sincerity of these postings since the students knew I was reading them. However, the overall postings by the class, as a whole, together with their in class discussions indicated that their remarks were consistent with their thoughts and feelings of the course content and their interactions with me.

Electronic journaling created shared and mediating learning contexts and invited multiple connections across contextualized information. Questions, thoughts, and feelings were exchanged after students had an opportunity to reflect on each class activity and assignment through electronic journals that took place beyond the walls of the classroom. Student reflections were dependent upon how important they perceived the lesson, whether they had experienced the lesson itself in their world experience and/or knowledge of the facts and ideas being studied, and/or their ability to apply newly learned methods to other situations. Their queries informed me of any information that needed clarification or elaboration to which I could respond directly and, if warranted, make the rest of the class aware of an issue, fact, or concept that needed further explanation at our next class meeting.

It was clear that students maintained a dialogue with themselves and also with me that better enabled them to understand and retain important facts and ideas. Simultaneously their electronic entries informed me of their level of understanding of each class session, and also alerted me to be more cognizant of forthcoming lessons and reading assignments so that they could be better learned and understood. Based on the students completed assignments, in class discussion, and their journal records, I changed the format of my final examination making it more applicative.

Together we were able to negotiate the curriculum and engage as a community of thinkers. A community whereby the professor strives to learn more about a discipline and his students engage in critical and imaginative thinking (Alvarez, 1996). Developing a community of thinkers' focuses on the kinds of thought processes needed by the professor and his students to achieve learning outcomes. Within our community of thinkers, teachers and students ask questions, seek answers, and reflect on their thoughts and feelings as they engage in problem-oriented lessons and assignments. This kind of community enables us to formulate personal meaning with the lessons developed and taught, and provides a framework from which to construct principles of learning. These principles of learning differ from prescribed outcomes and evolve through dialogues that represent "trusting relations" between us.

This study reaffirmed to me the notion of Ausubel's meaningful learning and the three conditions that need to be considered. First, materials need to be concept rich, with clear relationships. Second, the learner needs to have relevant prior knowledge and experience with the concepts and propositions that are presented in the new materials; and, finally, that learners need to have a meaningful learning set - a disposition to link new concepts, propositions, and examples to prior knowledge and experience. Within this notion of meaningful learning ideas were shared,

negotiated, and continued beyond the walls of the classroom through an electronic exchange that helped both the student and the professor to negotiate the curriculum in ways that traditional lecture and college teaching does not entertain.

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APPENDIX

A Professor and His Students Share their Thoughts, Questions, and Feelings

CONCEPTUAL/THEORETICAL

(Thinking)

WORLD VIEW:

Reflecting on one's ideas stimulates thought.

PHILOSOPHY:

Maintaining dialogues between students and professor increases conceptual understanding and results in meaningful learning.

THEORY:

Reflective practice through electronic journals increases understanding of important facts and concepts through mediated dialogues between students and professor.

PRINCIPLES:

Electronic journaling informs practice by providing records of student levels of understanding and feelings with class activities and assignments.

CONCEPTS:

electronic journals, meaningful learning, reflective practice.

FOCUS/RESEARCH: QUESTIONS

RQ1 How does electronic journaling increase student understanding and inform professor practice?

METHODOLOGICAL

(Doing)

VALUE CLAIMS:

Electronic communications between students and professor increase knowing and understanding and results in meaningful learning.

KNOWLEDGE CLAIMS:

RQ1 Students are better able to reflect on each class session and communicate their thoughts, questions, and feelings to their professor.

Student queries inform the professor of any information that needs individual clarification or elaboration at the next class meeting. A "trusting relationship" was established between students and professor.

Students maintain a dialogue with themselves and the professor that enables them to better understand and retain important facts and ideas.

Professor practice was better informed through journaling and evaluation of level of reflections taking place during lessons and assignments.

TRANSFORMATIONS:

Analysis of electronic notebook entries focusing on thoughts, feelings, and questions.

RECORDS:

Interactive electronic journals.

EVENTS AND/OR OBJECTS:

Eighteen undergraduate students in a methods course reflected on their thoughts, feelings, and questions after each class session with their professor via electronic notebooks. After the semester ended six students were randomly selected to revisit their postings and responses by the professor.

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